

Four New *Trichoptera* from the United States.

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(With 9 Text-Figures.)

Dr. Walther Horn has sent for determination a series of Neuropteroid insects which he obtained from Prof. A. L. Melander. Among the *Trichoptera* are four new species, one of peculiar interest since it belongs to a genus described from the amber of Europe.

Palaeagapetus.

This genus, previously known only from Prussian amber, differs from *Agapetus* in having forks one and two in the hind wing long and reaching almost or quite to the discal cell; also from allied genera in the broadly rounded fore wings, and in that the subcosta and radius of the hind wing run out further than in *Agapetus*.

Palaeagapetus nearcticus sp. nov. (Fig. 1—3).

Extremely similar to *P. rotundatus* Ulmer of the amber of Europe, shape of wings, venation almost identical. I cannot see any trace of a cross-vein connecting the bases of forks three and four, otherwise the venation differs only in minor details; fork two is back further on the discal cell, and in the hind wing the discal cell is longer than in the fossil species; in fore wings forks three and four are almost as narrow as in the fossil species; in hind wing fork five is somewhat larger than in *P. rotundatus*; in one hind wing of one specimen there is a small fork four. The maxillary palpi have the last joint a little more slender and a little shorter than the penultimate joint.

Head dark brown, obliquely from within each ocellus is a small transverse wart, and behind these the very much larger posterior warts, larger than in most *Agapetus*; the hair is dark, the eyes are minutely hairy; antennae pale brownish, the joints more slender than in *Agapetus*; legs pale brown, spurs darker, the preapical spurs of hind tibia twice their length from tip, and there are no long hairs on the hind tibiae; wings pale brownish, veins scarcely darker, an elongate patch of dark brown over the ends of subcosta and radius, long dark hairs on membrane and veins; abdomen brown, the male shows at tip a pair of pale, forked, slender appendages, and beneath smaller ones, next to last ventral segment projecting a little middle.

Length of fore wing 4 mm.

From White River, Mt. Ranier, Wash., 20 to 24 July (Melander).

Types in Deutsches Entomologisches Institut, Berlin-Dahlem, and Museum of Comparative Zoology, Cambridge, Mass.

***Glossosoma traviatum* sp. nov. (Fig. 4—7).**

Body brown, venter paler, head and notum with white hair; antennae with brown basal joints, then pale yellowish, but becoming darker at the middle and beyond; legs yellowish brown, blackish on bases of femora, spurs dark, subapical spurs of hind tibia reach to the apical pair. Wings grayish brown, with yellowish venation, with yellowish, and shorter black hair on membrane, fringes whitish in patches. Appearance and venation very similar to *G. ventralis*; color darker. The anal cell at

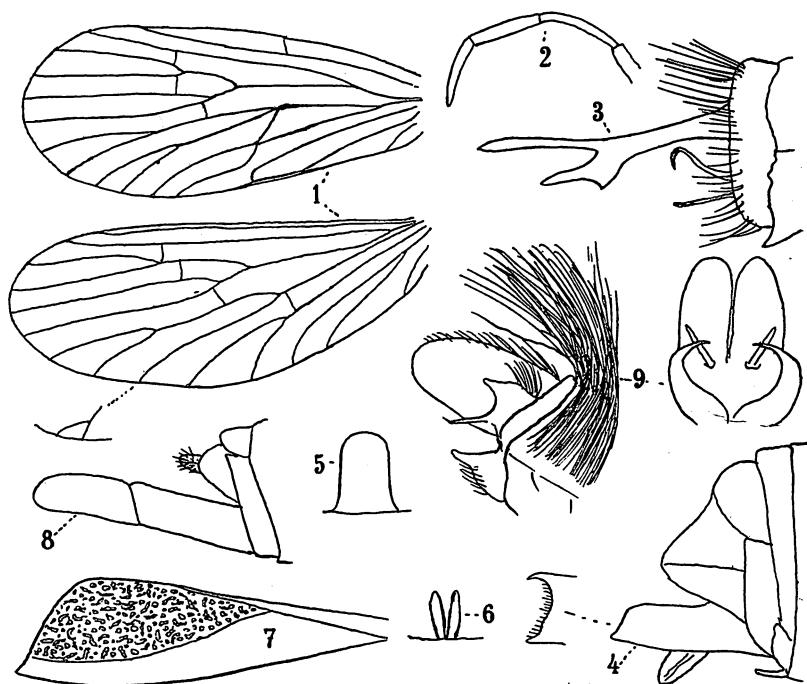


Fig. 1—3. *Palaeagapetus nearcticus* sp. nov. (Fig. 1: fore and hind wing. — Fig. 2: maxillary palpus. — Fig. 3: genitalia, side). Fig. 4—7: *Glossosoma traviatum* sp. nov. (Fig. 4: genitalia, side. — Fig. 5: ventral lobe. — Fig. 6: ventral appendages. — Fig. 7: basal anal area). — Fig. 8: *Philopotamus pallidipes* sp. nov. (male genitalia, side. — Fig. 9: *Mormomyia sackeni* sp. nov. (genitalia, side and below).

base of fore wing is covered with granules and curved ridges, but they do not extend outside the cell as in *G. penitum*. The radius at stigma is more sharply bent than in *G. ventralis*. The hood over the genitalia is not nearly as large as in *G. ventralis*, and below is a pair of much broader pieces, the incurved apex of which has a tooth at each end, and a row of hairs along middle; the ventral pieces are very small.

Length of fore wing 7 mm.

From Lilliwaup, Wash., 23 July and Mill Creek, Walla Walla, Wash., 2—6 July (Melander coll.).

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Philopotamus pallidipes sp. nov. (Fig. 8).

Head almost black, the hair mostly pale, but some dark on posterior warts; antennae pale; palpi pale brown, very long; notum dark; abdomen dark above, pale beneath, appendages pale, legs (including coxae) entirely pale yellowish.

Wings pale; fore wing with much short yellow hair, beyond middle mostly in patches, interrupted by patches of brown, most of stigma and the area behind fork five yellowish, and yellowish marginal spots between ends of veins; hind wings with gray hair. In fore wings fork one is short, often very short, shorter than its pedicel (in one male fork one is absent); in the hind wings fork one is usually absent in the males, in females very slender; base of fork five is plainly before base of discal cell, fork four with a longer pedicel than in *P. aequalis*.

Lower appendages long, the apical part not quite as long as basal; the upper inner bristly lobes projecting only a little.

Length of fore wing 8 mm.

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From Moscow, Ida., Mt. Ranier, Wash., Priest Lake, Ida., Mt. Hood, Oregon, in July and August, also St. Regis Pass, Mont. (all Melander). Readily separated from *P. aequalis* in more slender lower appendages, markings of wings, and wholly pale legs.

Mormomyia sackeni sp. nov. (Fig. 9).

Very similar in appearance to *M. vernalis*; basal joints of antennae sometimes darker than rest; fore wings with the same yellow-gray hair as in *vernal*is, legs and spurs the same, the venation of fore wing practically the same, the discal cell proportionally longer, almost equal to first apical cell, the three branches of cubitus the same except that the first and second are nearer to each other at origin. In hind wings the venation is also similar, except that here also the discal cell is proportionally longer than in *vernal*is. The male genitalia are very different from *vernal*is; the brushes of long hair on the three segments before tip are much as in *vernal*is; but instead of the small superior pieces of *vernal*is there is a pair of enormous superior plates, strongly concave within, and together forming a great egg-like projection; from beneath each has a spur toward base. The inferior appendages instead of the lobe-like appearance of *vernal*is, are curved like two great claws.

The size is smaller, fore wing 7 mm. long.

From Dubois, Pa., 5 Sept. (Melander), North Conway, N. H., 16 Aug. (Osten Sacken) and Trenton Falls, N. Y. (Osten Sacken). The Pennsylvania specimen has the head shrunken between the eyes.

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